Amendments to the Claims

Please amend the claims without prejudice, as follows and consider the subsequent remarks/arguments. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Please amend the claims as follows:

1. (currently amended) A high frequency dithering probe for a high speed scanning probe microscope, comprising:

a flat disk-type high frequency quartz-crystal resonator having a fundamental resonant frequency in the range of 1 MHz – 100MHz and a thickness of 0.01 mm – 2.0mm and having an electrode attached to a surface of the quartz-crystal resonator; and,

a probe attached to the quartz-crystal resonator and having a length of not more than 2mm.

2. (currently amended) The high frequency dithering probe of claim 1, wherein the quartz-crystal resonator [is formed in a flat disk type shape with] has a plane area of scores of mm^2.

3. (original) The high frequency dithering probe of claim 1, wherein the probe is attached on the surface of the quartz-crystal resonator.

4. (original) The high frequency dithering probe of claim 3, wherein the probe is a cantilever attached to the quartz-crystal resonator.

5. (original) The high frequency dithering probe of claim 3, wherein the probe is a sharpened optical fiber tip.

6. (original) The high frequency dithering probe of claim 3, wherein the probe is a tungsten tip.

7. (original) The high frequency dithering probe of claim 3, wherein the probe is a carbon nanotube.

8. (original) The high frequency dithering probe of claim 3, wherein the scanning probe microscope is a noncontact mode atomic force microscope (AFM).

9. (original) The high frequency dithering probe of claim 3, wherein the probe is made of a transparent material to transmit light therethrough.

10. (original) The high frequency dithering probe of claim 1, wherein the probe is attached to the quartz-crystal resonator in such a manner that it extends through a hole formed in the high frequency quartz-crystal resonator.

11. (original) The high frequency dithering probe of claim 10, wherein the probe is an optical fiber tip.

12. (original) The high frequency dithering probe of claim 10, wherein the scanning probe microscope is a noncontact mode atomic force microscope (AFM).

13. (original) The high frequency dithering probe of claim 10, wherein the scanning probe microscope is a near field scanning optical microscope (NSOM).

14. (original) The high frequency dithering probe of claim 10, wherein the probe is made of a transparent material to transmit light therethrough.

15. (original) The high frequency dithering probe of claim 14, wherein the electrode is removed at the portion of the quartz-crystal resonator where the probe is attached to.

16. (original) The high frequency dithering probe of claim 14, wherein the electrode is transparent.

17. (original) The dithering probe of claim 14, wherein the scanning probe microscope is a near field scanning optical microscope (NSOM).